

8HQ-0196-13570

THF

TETRAHYDROFURAN TASK FORCE

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ORIGINAL

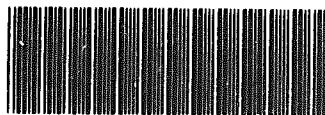
December 28, 1995



8HQ-96-13570  
INIT 01/11/96

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Office of Pollution Prevention and Toxics  
U. S. Environmental Protection Agency  
401 M Street SW  
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Attention: 8(e) Coordinator.

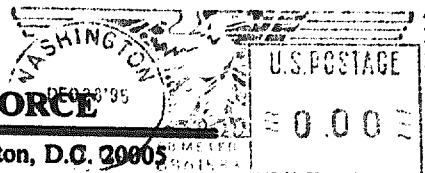
Subject: Tetrahydrofuran (THF); CAS# 109-99-9; Docket No. OPPTS-42134G

Dear Sir/Madam:

The Tetrahydrofuran Task Force (THF Task Force) is submitting the following information in fulfillment of the requirements of TSCA Section 8(e)... Notification of Substantial Risk to Health or the Environment. The THF Task Force is comprised of the following companies: ARCO Chemical Company, BASF Corporation, E.I. duPont de Nemours & Company, GE Plastics, Great Lakes Chemical Corp. and ISP Corporation. The Task Force is engaged in testing THF for neurotoxicity under a TSCA Section 4(a) Consent Agreement.

Preliminary results from a 90-day inhalation study in rats indicated that sedative effects occurred during exposure. In this study, 18 rats per sex per group for the control and high concentrations and 12 rats per sex per group for the intermediate doses were exposed to 0, 500, 1500, or 3000 ppm THF for 6 hours/day, 5 days/week, for 13 weeks (90 days). The animals' response to an alerting stimulus (a standardized noise caused by striking the metal test chamber with a metal object) administered during each exposure period was evaluated and recorded. Since all of the animals were not visible through the chamber window during this evaluation, no attempt was made to quantify the number of animals in each chamber that responded; rather, the judgment about the reaction of the group as a whole was recorded. Functional observational battery and motor activity evaluations were conducted prior to initiation of exposure, and after 4, 8, and 13 weeks of exposure. A subset of the control and 3000 ppm concentration groups was allowed to recover for 4 weeks.

The alerting response was judged to be diminished in rats exposed to 3000 ppm during 64 exposures. For rats exposed to 1500 ppm, a diminished response was noticed first during 16th exposure. It was sporadic until the 49th exposure after which the diminished response



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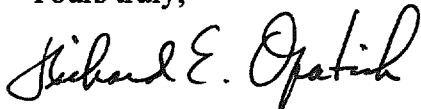
began to be noted consistently through to the end of the exposure period. For rats exposed to 500 ppm, there were only two occasions when a diminished response was recorded. These responses are not regarded as a compound-related effect because 1) the frequency of the diminished responses was very low and did not demonstrate a time-dependent pattern as did the 1500 ppm group, 2) observations were not conducted with the observer being blind with regard to the treatment conditions, and 3) judgments about these observations are highly subjective.

The Task Force submitted on March 9 1994, a TSCA 8(e) notification on THF and reported to EPA a diminished alerting response, indicative of transient sedation, observed at 2500 ppm in an acute neurotoxicity study. This notification is being submitted because a related effect was seen in a subchronic study at a lower exposure level. The Task Force continues to believe, however, that these results are not evidence of frank neurotoxicity but rather are indicative only of transient sedation experienced by test animals exposed to high concentrations of THF... levels well above established worker exposure limits. We also believe that current workplace practices and established safe exposure limits provide adequate protection to those handling THF; consequently these results do not warrant the adoption of additional controls.

Evaluation of pathology and neurobehavioral endpoints from the 90-day study are currently in progress and will be communicated to the Agency on completion.

Please contact me at 202/414-4160 if there are any questions relating to this submission.

Yours truly,

A handwritten signature in cursive script, reading "Richard E. Opatick".

Richard E. Opatick  
Director, THF Task Force

**Best Available Copy**